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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/970,122	10/02/2001	Hou-Pu Chou	020174-002510US	2108
20350	7590	04/08/2005	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP			PHASGE, ARUN S	
TWO EMBARCADERO CENTER			ART UNIT	
EIGHTH FLOOR			PAPER NUMBER	
SAN FRANCISCO, CA 94111-3834			1753	

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/970,122

Applicant(s)

CHOU ET AL.

Examiner

Arun S. Phasge

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
4a) Of the above claim(s) 10-17, 23-26 and 29-33 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-9, 18-22, 27 and 28 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/19/02.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

Claims 10-17, 23-26, 29-33 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 12/29/04.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 8, 18, 20 and 22 are rejected under 35 U.S.C. 102(a) as being anticipated by Klein, WO 00/57173.

Klein discloses the claimed microfluidic device comprising a flow channel, a pump interconnect to said flow channel, a damper operatively interconnected to said flow channel (see pages 7-9). The reference further discloses the use of

control valve and a t-junction (see pages 5 and 8). The reference uses the enlarged portion of the flow channel partially filled with air as the damper (see page 8). The reference further discloses the further restriction of the flow chamber (see claims 4-5).

Therefore, since the reference discloses each and every limitation, the claims are rejected.

Claims 1-3, 9, 18, 21, 22, 27-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Quake et al. (Quake), WO 99/61888.

The Quake reference discloses the claimed microfluidic device comprising a flow channel, a pump interconnect to said flow channel, a damper operatively interconnected to said flow channel (see figures 14-15 and pages 20-25). The reference further discloses the use of control valve and a t-junction (see pages 20 and 28). The reference uses walls made of elastomeric materials as the damper (see pages 51-52). The reference further teaches the sorting method and reversible sorting process (see claims 38 and 50).

Consequently, since the reference discloses each and every limitation, the claims are rejected.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4-7, 9, 19, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klein as applied to claims above, and further in view of Lee et al. (Lee), U.S. Patent 6,829,753.

The Klein reference does not disclose that the damper is a membrane or an elastomeric material, which would deflect to absorb the energy. The Lee reference is cited to show the use of an elastomeric membrane, which deflects to

absorb energy and provide a smoother flow of the pumped fluid (see col. 25, lines 18-22).

Therefore, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disclosure of the Klein patent with the teachings of the Lee patent, because the Lee patent teaches that the use of an elastomeric membrane as a damper provides for "smoother flow of the pumped fluid. To provide a plurality of dampers would have been within the purview of the ordinary artisan, because such plurality would produce the smoothest controlled flow.

Claims 4-8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quake as applied to claims above, and further in view of Lee applied as above.

The Quake reference does not disclose that the damper is a membrane or an elastomeric material, which would deflect to absorb the energy. The Lee reference is cited to show the use of an elastomeric membrane, which deflects to absorb energy and provide a smoother flow of the pumped fluid (see col. 25, lines 18-22).

Consequently, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the

disclosure of the Klein patent with the teachings of the Lee patent, because the Lee patent teaches that the use of an elastomeric membrane as a damper provides for "smoother flow of the pumped fluid. To provide a plurality of dampers would have been within the purview of the ordinary artisan, because such plurality would produce the smoothest controlled flow.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 18, 19, 21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11 and 16 of copending Application No. 09/997,205. Although the conflicting claims are not identical, they are not patentably distinct from each other because

the copending application clearly fully encompasses the claims of the instant application.

The claims show the damper for a microfluidic device comprising a flow channel formed in an elastomer material, and an energy absorber adjacent to the flow channel and configured to absorb an energy of oscillation of a fluid positioned within the flow channel (see claims 1-11). The claims further show the use of the elastomer to deflects to absorb the energy (see claims 1-11, 16).

Therefore, the claims are rejected.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 18, 19, 21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 25-29 of copending Application No. 09/724,967. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application clearly fully encompasses the claims of the instant application.

The claims show the damper for a microfluidic device comprising a flow channel formed in an elastomer material, and an energy absorber adjacent to the

flow channel and configured to absorb an energy of oscillation of a fluid positioned within the flow channel (see claims 25-29). The claims further show the use of the elastomer to deflects to absorb the pressure (see claims 25-29).

Consequently, the claims are rejected.

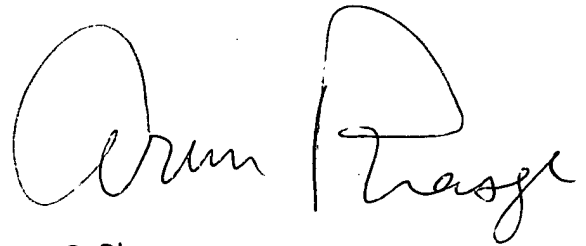
This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun S. Phasge whose telephone number is (571) 272-1345. The examiner can normally be reached on MONDAY-THURSDAY, 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Arun Phasge'. The signature is fluid and cursive, with the first name 'Arun' and last name 'Phasge' clearly distinguishable.

Arun S. Phasge
Primary Examiner
Art Unit 1753

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